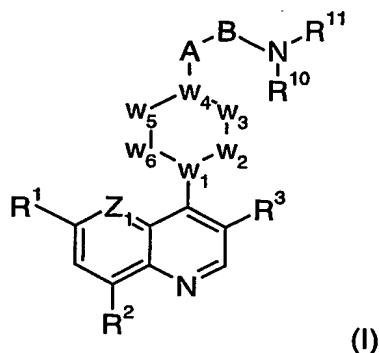


What is claimed is:

1. A compound of formula (I)



wherein:

Z_1 is N or CR^{1a} ;

R^1 and R^{1a} are independently hydrogen; hydroxy; (C_{1-6})alkoxy unsubstituted or substituted by (C_{1-6})alkoxy, hydroxy, amino, piperidyl, guanidino or amidino any of which is unsubstituted or N-substituted by one or two (C_{1-6})alkyl, acyl, (C_{1-6})alkylsulphonyl, $CONH_2$, hydroxy, (C_{1-6})alkylthio, heterocyclithio, heterocyclloxy, arylthio, aryloxy, acylthio, acyloxy or (C_{1-6})alkylsulphonyloxy; (C_{1-6})alkoxy-substituted (C_{1-6})alkyl; halogen; (C_{1-6})alkyl; (C_{1-6})alkylthio; trifluoromethyl; trifluoromethoxy; nitro; azido; cyano; acyl; acyloxy; acylthio; (C_{1-6})alkylsulphonyl; (C_{1-6})alkylsulphoxide; arylsulphonyl; arylsulphoxide; or an amino, piperidyl, guanidino or amidino group unsubstituted or N-substituted by one or two (C_{1-6})alkyl, acyl or (C_{1-6})alkylsulphonyl groups; or R^1 and R^{1a} may together form ethylenedioxy;

provided that when Z_1 is CR^{1a} then R^1 is not H;

R^2 is H or halogen;

provided that when Z_1 is N, then R^2 is H;

R^3 is hydrogen; halogen; hydroxy; cyano; CF_3 ; nitro; azido; acyl; aryl; heteroaryl; CO_2H ; acyloxy; acylthio; (C_{1-6})alkyl unsubstituted or substituted by one or two (C_{1-6})alkoxy, hydroxy, amino, piperidyl, guanidino or amidino any of which is unsubstituted or N-

substituted by one or two (C₁₋₆)alkyl, acyl, (C₁₋₆)alkylsulphonyl, CONH₂, hydroxy, (C₁₋₆)alkylthio, heterocyclithio, heterocyclxy, arylthio, aryloxy, acylthio, acyloxy or (C₁₋₆)alkylsulphonyloxy; (C₁₋₆)alkoxy unsubstituted or substituted by one or two (C₁₋₆)alkoxy, hydroxy, amino, piperidyl, guanidino or amidino any of which is unsubstituted or N-substituted by one or two (C₁₋₆)alkyl, acyl, (C₁₋₆)alkylsulphonyl, CONH₂, hydroxy, (C₁₋₆)alkylthio, heterocyclithio, heterocyclxy, arylthio, aryloxy, acylthio, acyloxy or (C₁₋₆)alkylsulphonyloxy; (C₃₋₇)cycloalkyl; (C₁₋₆)alkoxy-substituted(C₁₋₆)alkyl; (C₁₋₆)alkylthio; trifluoromethoxy; (C₁₋₆)alkylsulphonyl; (C₁₋₆)alkylsulphoxide; arylsulphonyl; or arylsulphoxide; or an amino, piperidyl, guanidino or amidino group unsubstituted or N-substituted by one or two (C₁₋₆)alkyl, acyl or (C₁₋₆)alkylsulphonyl groups;

w₁ is N, C, or CR⁴;

w₂ is C=O, CR⁴, or CR⁴R⁵;

w₃ is C=O or CR⁴R⁵;

w₄ is N or CR⁴;

w₅ is C=O or CR⁴R⁵;

w₆ is C=O, CR⁴, or CR⁴R⁵;

Alternatively, one of W₂, W₃, W₅ and W₆ is CR⁴R⁵CR⁴R⁵ and the others defined as above;

each R⁴ and R⁵ is independently hydrogen; halogen; hydroxy; cyano; CF₃; nitro; azido; acyl; aryl; heteroaryl; CO₂H; acyloxy; acylthio; (C₁₋₆)alkyl unsubstituted or substituted by one or two (C₁₋₆)alkoxy, hydroxy, amino, piperidyl, guanidino or amidino any of which is unsubstituted or N-substituted by one or two (C₁₋₆)alkyl, acyl, (C₁₋₆)alkylsulphonyl, CONH₂, hydroxy, (C₁₋₆)alkylthio, heterocyclithio, heterocyclxy, arylthio, aryloxy, acylthio, acyloxy or (C₁₋₆)alkylsulphonyloxy; (C₁₋₆)alkoxy unsubstituted or substituted by one or two (C₁₋₆)alkoxy, hydroxy, amino, piperidyl, guanidino or amidino any of which is unsubstituted or N-substituted by one or two (C₁₋₆)alkyl, acyl, (C₁₋₆)alkylsulphonyl, CONH₂, hydroxy, (C₁₋₆)alkylthio, heterocyclithio, heterocyclxy, arylthio, aryloxy, acylthio, acyloxy or (C₁₋₆)alkylsulphonyloxy; (C₃₋₇)cycloalkyl; (C₁₋₆)alkoxy-substituted(C₁₋₆)alkyl; (C₁₋₆)alkylthio; trifluoromethoxy; (C₁₋₆)alkylsulphonyl; (C₁₋₆)alkylsulphoxide; arylsulphonyl; or arylsulphoxide; or an amino, piperidyl, guanidino or amidino group unsubstituted or N-substituted by one or two (C₁₋₆)alkyl, acyl or (C₁₋₆)alkylsulphonyl groups; or two R⁵ groups are joined together to form bicycloheptane;

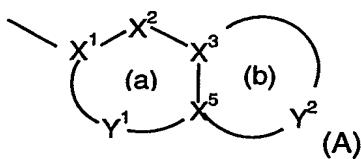
A is CR^6R^7 or $C(O)$;

B is CR^8R^9 or $C(O)$;

R^6 , R^7 , R^8 , and R^9 are independently hydrogen; halogen; hydroxy; cyano; CF_3 ; nitro; azido; acyl; aryl; heteroaryl; CO_2H ; acyloxy; acylthio; (C_{1-6})alkyl unsubstituted or substituted by one or two (C_{1-6})alkoxy, hydroxy, amino, piperidyl, guanidino or amidino any of which is unsubstituted or N-substituted by one or two (C_{1-6})alkyl, acyl, (C_{1-6})alkylsulphonyl, $CONH_2$, hydroxy, (C_{1-6})alkylthio, heterocyclithio, heterocyclyloxy, arylthio, aryloxy, acylthio, acyloxy or (C_{1-6})alkylsulphonyloxy; (C_{1-6})alkoxy unsubstituted or substituted by one or two (C_{1-6})alkoxy, hydroxy, amino, piperidyl, guanidino or amidino any of which is unsubstituted or N-substituted by one or two (C_{1-6})alkyl, acyl, (C_{1-6})alkylsulphonyl, $CONH_2$, hydroxy, (C_{1-6})alkylthio, heterocyclithio, heterocyclyloxy, arylthio, aryloxy, acylthio, acyloxy or (C_{1-6})alkylsulphonyloxy; (C_{3-7})cycloalkyl; (C_{1-6})alkoxy-substituted(C_{1-6})alkyl; (C_{1-6})alkylthio; trifluoromethoxy; (C_{1-6})alkylsulphonyl; (C_{1-6})alkylsulphoxide; arylsulphonyl; or arylsulphoxide; or an amino, piperidyl, guanidino or amidino group unsubstituted or N-substituted by one or two (C_{1-6})alkyl, acyl or (C_{1-6})alkylsulphonyl groups;

R^{10} is hydrogen; aryl; heteroaryl; (C_{1-6})alkyl unsubstituted or substituted by one or two (C_{1-6})alkoxy, hydroxy, amino, piperidyl, piperazinyl, morpholino, guanidino, or amidino, any of which is unsubstituted or N-substituted by one or two aryl, heteroaryl, halogen, cyano, CF_3 , unsubstituted (C_{1-6})alkyl, acyl, (C_{1-6})alkylsulphonyl, arylsulphonyl, hydroxy, (C_{1-6})alkylthio, heterocyclithio, heterocyclyloxy, arylthio, aryloxy, acylthio, acyloxy, or (C_{1-6})alkylsulphonyloxy, so long as the substitution does not lead to an unstable compound; (C_{1-6})alkoxy-substituted(C_{1-6})alkyl; hydroxy-substituted(C_{1-6})alkyl; (C_{1-6})alkylcarbonyl; (C_{2-6})alkenylcarbonyl; (C_{1-6})alkoxycarbonyl; CO_2H ; or CF_3 ;

R^{11} is a group -U-R¹² where R^{12} is a substituted or unsubstituted bicyclic carbocyclic or heterocyclic ring system (A):



containing up to four heteroatoms in each ring in which

at least one of rings (a) and (b) is aromatic;

X^1 is C or N when part of an aromatic ring or CR^{14} when part of a non aromatic ring;

X^2 is N, NR^{13} , O, $S(O)_X$, CO or CR^{14} when part of an aromatic or non-aromatic ring or may in addition be $CR^{14}R^{15}$ when part of a non aromatic ring;

X^3 and X^5 are independently N or C;

Y^1 is a 0 to 4 atom linker group each atom of which is independently selected from N, NR^{13} , O, $S(O)_X$, CO and CR^{14} when part of an aromatic or non-aromatic ring or may additionally be $CR^{14}R^{15}$ when part of a non aromatic ring,

Y^2 is a 2 to 6 atom linker group, each atom of Y^2 being independently selected from N, NR^{13} , O, $S(O)_X$, CO and CR^{14} when part of an aromatic or non-aromatic ring or may additionally be $CR^{14}R^{15}$ when part of a non aromatic ring; each of R^{14} and R^{15} is independently selected from: H; $(C_{1-4})alkylthio$; halo; $(C_{1-4})alkyl$; $(C_{2-4})alkenyl$; hydroxy; hydroxy($C_{1-4})alkyl$; mercapto($C_{1-4})alkyl$; $(C_{1-4})alkoxy$; trifluoromethoxy; nitro; cyano; carboxy; amino or aminocarbonyl unsubstituted or substituted by $(C_{1-4})alkyl$.

each R^{13} is independently H; trifluoromethyl; $(C_{1-4})alkyl$ unsubstituted or substituted by hydroxy, carboxy, $(C_{1-4})alkoxy$, $(C_{1-6})alkylthio$, halo or trifluoromethyl; $(C_{2-4})alkenyl$; or aminocarbonyl wherein the amino group is optionally substituted $(C_{1-4})alkyl$;

each x is independently 0, 1 or 2;

U is CO, SO_2 , CH_2 , or $CR^{16}R^{17}$;

R^{16} and R^{17} are independently selected from H; aryl; heteroaryl; $(C_{1-6})alkyl$; $(C_{1-6})alkyl$ substituted by $(C_{1-6})alkoxy$, hydroxy, amino, piperidyl, piperazinyl, morpholino, guanidino, or amidino, any of which is substituted or N-substituted by one or two H, aryl, heteroaryl, halogen, cyano, CF_3 , $(C_{1-6})alkyl$, acyl, $(C_{1-6})alkylsulphonyl$, arylsulphonyl, hydroxy, $(C_{1-6})alkylthio$, heterocyclithio, heterocyclyloxy, arylthio, aryloxy, acylthio, acyloxy, or $(C_{1-6})alkylsulphonyloxy$, so long as the substitution does not lead to an unstable compound; $(C_{1-6})alkoxy$ -substituted($C_{1-6})alkyl$; hydroxy-substituted($C_{1-6})alkyl$; amino-substituted($C_{1-6})alkyl$, which is N-substituted by one or two $(C_{1-6})alkyl$, acyl, $(C_{1-6})alkylsulphonyl$, or arylsulphonyl; $(C_{1-6})alkylcarbonyl$; $(C_{2-6})alkenylcarbonyl$; $(C_{1-6})alkoxycarbonyl$; CO_2H ; or CF_3 ; or

a pharmaceutically acceptable salt or salts thereof.

2. A compound according to claim 1, wherein R¹ is F, Cl, OCH₃, methyl, or SCH₃.
3. A compound according to claim 1, wherein R^{1a} is H, OCH₃, or OCH₂CH₂OCH₃.
4. A compound according to claim 1, wherein R² is H or F.
5. A compound according to claim 1, wherein R³ is Cl or F.
6. A compound according to claim 1, wherein each R⁴ is independently H, OH, OCH₃, or CH₂OH.
7. A compound according to claim 1, wherein R⁵ is H.
8. A compound according to claim 1, wherein the group -U- is -CH₂-.
9. A compound according to claim 1, wherein R¹² is:
benzo[1,2,5]thiadiazol-5-yl;
4H-benzo[1,4] thiazin-3-one-6-yl;
2,3-dihydro-benzo[1,4]dioxin-6-yl;
benzo[1,2,3]thiadiazol-5-yl;
3-oxo-3,4-dihydro-2H-benzo[1,4]oxazin-6-yl;
7-fluoro-3-oxo-3,4-dihydro-2H-benzo[1,4] oxazin-6-yl;
2-oxo-2,3-dihydro-1H-pyrido[2,3-b][1,4]thiazin-7-yl;
2,3-Dihydro-[1,4]dioxino[2,3-c]pyridin-7-yl;
3-oxo-3,4-dihydro-2H-pyrido[3,2-b][1,4]oxazin-6-yl;
[1,2,3]thiadiazolo[5,4-b]pyridin-6-yl;
3-oxo-3,4-dihydro-2H-pyrido[3,2-b][1,4]thiazin-6-yl;
7-chloro-3-oxo-3,4-dihydro-2H-pyrido[3,2-b][1,4]thiazin-6-yl; or
7-fluoro-3-oxo-3,4-dihydro-2H-pyrido[3,2-b][1,4]thiazin-6-yl.

10. A compound according to claim 1, wherein the compound is:

6-({2-[1-(6-methoxyquinolin-4-yl)piperidin-4-yl]ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;

6-({2-[1-(6-methoxyquinolin-4-yl)piperidin-4-yl]ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

(2,3-dihydro-[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)-{2-[1-(6-methoxyquinolin-4-yl)piperidin-4-yl]ethyl}amine;

6-({2-[1-(6-methoxynaphthyridin-4-yl)piperidin-4-yl]ethylamino} methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;

6-({2-[1-(6-methoxynaphthyridin-4-yl)piperidin-4-yl]ethylamino} methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

(2,3-dihydro-[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)-{2-[1-(6-methoxynaphthyridin-4-yl)piperidin-4-yl]ethyl}amine;

6-({2-[1-(3-chloro-6-methoxy-[1,5]quinolin-4-yl)phenyl] ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;

6-({2-[1-(3-chloro-6-methoxy-[1,5]quinolin-4-yl)phenyl] ethylamino} methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

{2-[1-(3-chloro-6-methoxyquinolin-4-yl)piperidin-4-yl]ethyl}-(2,3-dihydro[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)amine;

6-({2-[1-(3-chloro-6-methoxy-[1,5]naphthyridin-4-yl)phenyl] ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;

6-({2-[1-(3-chloro-6-methoxy-[1,5]naphthyridin-4-yl)phenyl] ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

{2-[1-(3-chloro-6-methoxynaphthyridin-4-yl)piperidin-4-yl]ethyl}-(2,3-dihydro[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)amine;

6-({2-[4-(6-methoxyquinolin-4-yl)piperazin-1-yl]ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;

6-({2-[4-(6-methoxyquinolin-4-yl)piperazin-1-yl]ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

(2,3-dihydro-[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)-{2-[4-(6-methoxyquinolin-4-yl)piperazin-1-yl]ethyl}amine;

6-({2-[4-(6-methoxynaphthyridin-4-yl)piperazin-1-yl]ethylamino} methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;

6-({2-[4-(6-methoxynaphthyridin-4-yl)piperazin-1-yl]ethylamino} methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

(2,3-dihydro-[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)-{2-[4-(6-methoxynaphthyridin-4-yl)piperizin-1-yl]ethyl}amine;

6-({2-[4-(3-chloro-6-methoxyquinolin-4-yl)piperazin-1-yl] ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;

6-({2-[4-(3-chloro-6-methoxyquinolin-4-yl)piperazin-1-yl] ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

{2-[4-(3-chloro-6-methoxyquinolin-4-yl)piperazin-1-yl]ethyl}-(2,3-dihydro[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)amine;

6-({2-[4-(3-chloro-6-methoxynaphthyridin-4-yl)piperazin-1-yl] ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]oxazin-3-one;

6-({2-[4-(3-chloro-6-methoxynaphthyridin-4-yl)piperazin-1-yl] ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

{2-[4-(3-chloro-6-methoxynaphthyridin-4-yl)piperazin-1-yl]ethyl}-(2,3-dihydro[1,4]dioxino[2,3-*c*]pyridin-7-ylmethyl)amine;

6-({2-[4-(6-Methoxy-[1,5]naphthyridin-4-yl)-3,6-dihydro-2*H*-pyridin-1-yl] ethylamino}methyl)-4*H*-pyrido[3,2-*b*][1,4]thiazin-3-one;

N-(2-{1-[6-(methyloxy)-1,5-naphthyridin-4-yl]-4-piperidinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazine-6-carboxamide;

N-(2-{1-[6-(methyloxy)-1,5-naphthyridin-4-yl]-4-piperidinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-1,4-benzothiazine-6-sulfonamide;

N-methyl-N-(2-{1-[6-(methyloxy)-1,5-naphthyridin-4-yl]-4-piperidinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazine-6-carboxamide;

N-methyl-N-(2-{1-[6-(methyloxy)-1,5-naphthyridin-4-yl]-4-piperidinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-1,4-benzothiazine-6-sulfonamide;

N-(2-{1-[3-chloro-6-(methyloxy)-1,5-naphthyridin-4-yl]-4-piperidinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-1,4-benzothiazine-6-sulfonamide;

7-{{(2-{4-[6-(methyloxy)-1,5-naphthyridin-4-yl]-1-piperazinyl}ethyl) oxy} methyl}-2,3-dihydro[1,4]dioxino[2,3-*c*]pyridine;

N-(2-{4-[6-(methyloxy)-1,5-naphthyridin-4-yl]-1-piperazinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazine-6-carboxamide;

N-methyl-N-(2-{4-[6-(methyloxy)-1,5-naphthyridin-4-yl]-1-piperazinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-pyrido[3,2-*b*][1,4]thiazine-6-carboxamide;

N-(2-{4-[6-(methyloxy)-1,5-naphthyridin-4-yl]-1-piperazinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-1,4-benzothiazine-6-sulfonamide;

N-methyl-N-(2-{4-[6-(methyloxy)-1,5-naphthyridin-4-yl]-1-piperazinyl}ethyl)-3-oxo-3,4-dihydro-2*H*-1,4-benzothiazine-6-sulfonamide;

6-{[(2-{4-[6-(methyloxy)-1,5-naphthyridin-4-yl]hexahydro-1H-1,4-diazepin-1-yl}ethyl)amino]methyl}-2H-pyrido[3,2-b][1,4]thiazin-3(4H)-one;
N-(2-{4-[6-(methyloxy)-1,5-naphthyridin-4-yl]hexahydro-1H-1,4-diazepin-1-yl}ethyl)-3-oxo-3,4-dihydro-2H-1,4-benzothiazine-6-sulfonamide;
6-{[(2-{(1R,4R)-5-[6-(methyloxy)-1,5-naphthyridin-4-yl]-2,5-diazabicyclo[2.2.1]hept-2-yl}ethyl)amino]methyl}-2H-pyrido[3,2-b][1,4]thiazin-3(4H)-one;
6-[(1-[6-(methyloxy)-1,5-naphthyridin-4-yl]-4-piperidinyl)amino] methyl]-2H-pyrido[3,2-b][1,4]thiazin-3(4H)-one;
6-[(2-{4-hydroxy-1-[6-(methyloxy)-1,5-naphthyridin-4-yl]-4-piperidinyl}ethyl)amino]methyl}-2H-pyrido[3,2-b][1,4]thiazin-3(4H)-one;
6-[(2-{4-hydroxy-1-[6-(methyloxy)-1,5-naphthyridin-4-yl]-4-piperidinyl}ethyl)amino]methyl}-2H-pyrido[3,2-b][1,4]oxazin-3(4H)-one;
N-(2-{4-hydroxy-1-[6-(methyloxy)-1,5-naphthyridin-4-yl]-4-piperidinyl} ethyl)-3-oxo-3,4-dihydro-2H-1,4-benzothiazine-6-sulfonamide;
6-[(2-{4-[7-fluoro-6-(methyloxy)-1,5-naphthyridin-4-yl]-1-piperazinyl} ethyl)amino]methyl}-2H-pyrido[3,2-b][1,4]thiazin-3(4H)-one;
6-[(2-{4-[7-fluoro-6-(methyloxy)-1,5-naphthyridin-4-yl]-1-piperazinyl} ethyl)amino]methyl}-2H-pyrido[3,2-b][1,4]oxazin-3(4H)-one; or

a pharmaceutical salt or salts thereof.

11. A pharmaceutical composition, comprising a compound according to claim 1 and a pharmaceutically acceptable carrier.

12. A method of treating bacterial infections in mammals, which comprises administrating to a mammal in need thereof an effective amount of a compound according to claim 1.